



August 12, 2003

Mr. Nabil S. Fayoumi
U. S. Environmental Protection Agency - Region 5
Superfund Division
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

**Re: Response to Comments on Final Design Submittals
Groundwater Migration Control System
Sauget Area 2 – Sites O, Q, R And S
Sauget, Illinois**

Dear Mr. Fayoumi:

This letter presents Solutia's responses to comments received from you on the Remedial Design/Remedial Action Work Plan, the Final Design Submittal, and the Construction Quality Assurance Plan for the Groundwater Migration Control System to be constructed at the Area 2 Groundwater Operable Unit in Sauget, Illinois. The comments were received by e-mail on July 29, 2003.

As we have done in the past, we are submitting only our responses to the comments. When Solutia and USEPA are agreed on the revisions to the documents, after you have had a chance to review these responses, we will make the agreed upon modifications and submit the final documents to you.

For ease of reference, each of your comments is reproduced below in italics and is immediately followed by our response to that comment.

General Comments

The documents retain language that refers "to an alternate construction technique other than a soil-bentonite wall constructed using a slurry wall technique...". Since it has been agreed that the subsurface barrier wall will be constructed using the slurry-wall method, references to "alternate construction techniques" should be removed from the documents. Similarly, specifications relating to a Cement Deep Soil Mixing (CDSM) Wall should be removed from the Final Design Submittal

Response: The requested changes will be made to all of the documents and the specifications will be removed..

Remedial Design/Remedial Action Workplan

1. **Page 2-4, Section 2.2.2.2., first bullet.** *The language in the first sentence has been changed from "...ensure that gradients across the barrier wall are minimized" to "ensure that gradients across the barrier wall are nearly the same elevation". Please explain why the change was made, because the meaning of the revised sentence is unclear.*

Response: The wording was changed in response to an earlier Agency comment dated February 4, 2003.. That comment requested the removal of the word "minimized" and replacement with the statement that "the levels will be the same". The basis of the design is to maintain the same head on both sides of the wall. However, we expect that the water level on the river side of the wall will respond rapidly to changes in river level and that it will take longer to achieve the same change on the inside of the wall. Consequently, the ground water levels will not always be the same on both sides of the wall.. Hence, the wording was changed to "nearly the same elevation". However, it is emphasized that such head differentials will be minor and transient. In consequence, they are not expected to result in any measurable increases in the flux through the barrier wall.

2. **Page 3-4, Section 3.4.** *The final three paragraphs contain a rationale for delaying the start of construction because of inclement weather. Because we have agreed that construction will start in September, 2003, these paragraphs should be removed.*

Response: The paragraphs will be deleted. Nevertheless, the comments in the first paragraph about potential weather delays associated with working during the winter are still applicable.

3. **Page 3-5, Section 3.5.2. Performance Verification Plan.** *We are unaware that a Draft Performance Standard Verification Plan has been submitted as part of the Perennial or Final Design submittals. Please explain the status of this plan.*

Response: The Draft Performance Standard Verification Plan consists of the following three documents:- 1) the Quality Assurance Project Plan, 2) the Health and Safety Plan, and 3) the Field Sampling Plan. These documents were submitted as part of the Pre-Final Design submittal on January 31, 2003. The Agency has not requested any revisions to any of these documents since their initial submission.

4. **Page 3-11, Section 3.5.4. Contingency Plan.** *We understand that a Contingency Plan will be submitted to USEPA in the near future. Will the plan include an Air Monitoring Plan and a Spill Control and Countermeasures Plan? The section currently states that these two plans will only be submitted "if applicable"; please clarify.*

Response: The Contingency Plan was submitted as part of the Pre-Final Design on January 31, 2003 (Volume 4 of the submittal). That plan contains an air-monitoring plan. It also identifies that a Spill Prevention, Control and Countermeasures (SPCC) Plan is not

required because the threshold limits for petroleum storage listed in 40 CFR 112.1 will not be exceeded. If the contractor does propose to store fuel on site in excess of those threshold limits, then a SPCC Plan will be prepared prior to installing the storage facility.

Final Design Submittal

1. **Page 3-2, Attachment 3-1, Calculations.** *The well design calculations presented are dated 3-26-02 and are related to the initial extraction well design. The calculations should be updated to reflect the current extraction well system design.*

Response: The calculations will be updated to reflect the changes made in the original design. These include increasing the depth of wells EW-1 and EW-3 to the top of bedrock, increasing the diameter of these wells from 10 inches to 12 inches, and increasing the horsepower of the pumps in these wells to 40 HP.

2. **Page 4-1, Introduction, Second Paragraph.** *Please remove reference to "alternate construction technique".*

Response: The reference will be removed.

3. **Page 4-3, Section 4.1.4.** *The following sentence has been omitted from this section: "The design strength of the grout mix will be specified to be a minimum of 30 psi at 28 days." Please explain why the sentence was removed.*

Response: The strength requirement was removed because the construction technique was changed from jet grouting to a soil/bentonite slurry wall. Consequently, specification of a grout strength is not appropriate.

4. **Page 4-5, Section 4.3.2** *Please remove references to "pre-production test cells" since these no longer apply to the slurry wall method.*

Response: The references will be removed.

5. **Pages 4-6, 4-7, Sections 4.4.1, 4.4.2.** *The second paragraph of Section 4.4.1 states that "a maximum of 20,00 cubic yards of material will be placed in the temporary stockpile." The final paragraph of section 4.4.2 states "If the volume of generated spoils is greater than 30,000 cubic yards, the stockpile could be extended in a northerly direction..." Please explain the apparent contradiction in spoil stockpile volumes between the two statements.*

Response: It is anticipated that a maximum of 20,000 cubic yards of material will be produced during the construction of the slurry wall. The current design allows for storage of up to 30,000 cubic yards of material and, as noted in the third paragraph of Section 4.4.2, the stockpile is capable of being expanded even further if more spoil is generated than presently anticipated.

6. **Page 5-5, Section 5.4.3.** *The section states that "...the sand will be compacted." The same Section in the Pre-final Design Submittal stated "...the sand will be compacted to at least 85% Standard Proctor maximum dry density." Please explain why the compaction standard was omitted from the Final Design Submittal.*

Response: The compaction standard was changed during the actual construction of the discharge pipeline and other utilities installed in trenches. The changes were necessitated by considerations of practicality during construction activities. Since the bedding under and around the utilities was relatively thin in the trenches with sidewalls, methods to check the density would have required correction factors or would have require testing personnel to be present in the trench for periods of time. Based on the experience of the Construction and Project Managers, it was considered that the relatively modest density requirements (85 % Standard Proctor) would be satisfied during normal placement of the backfill, given that the backfill material was clean granular soil. Thus, the change from a density test to a method specification was judged to be appropriate. . Since a change was made during construction, the Final Design submittal was revised to reflect this change..

Construction Quality Assurance Plan

1. **Page 1-3, Section 1.2.5.** *Has the Construction Quality Assurance (CQA) Consultant been selected or identified?*

Response: The CQA Consultant will be URS Corporation.

2. **Page 2-1, Section 2.1.1.1.** *The section indicates that a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and submitted by the selected contractor to Solutia prior to construction start. Will this plan also satisfy the requirements of a Spill Prevention and Countermeasures Plan, as potentially required by the project Contingency Plan (see RA/RD Workplan comment #4 above)?*

Response: As noted in response to the previous comment on this subject, a SPCC Plan will not be required since it is intended that on-site fuel storage will not exceed the threshold volumes defined in 40 CFR 112.1. However, if the contractor does elect to store fuel in excess of these threshold limits, a SPCC Plan will be prepared prior to creating the storage facilities.

3. **Page 3-1, Sections 3.1., 3.3.2.1., 3.3.2.3.** *Please remove references to "approved alternate method", "alternate installation techniques", and "test cells".*

Response: The references will be removed.

4. **Page 5-3, Section 5.2.6.** *The first sentence has been altered to read "In all areas, the earth excavated from the trench may be placed back in the trench." The Pre-*

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final document stated "Within the barrier wall, the earth excavated from the trench may be placed back in the trench. Downstream of the barrier wall, all earth excavated will be loaded in trucks as it is excavated and hauled to the temporary stockpile." Please explain and justify the change in approach.

Response: During construction of the effluent pipeline, no excavations were necessary down gradient of the location of the barrier wall. Further, the material excavated from the trench was suitable for use as backfill. Consequently, all of the excavated material was placed back in the trench and the document was revised to reflect this fact.

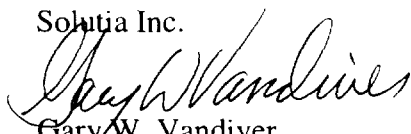
5. **Page 5-3, Section 5.2.6.** *The Pre-final Design Submittal contained a backfill compaction specification (85% of standard maximum dry density) that has been omitted from the Final Design Submittal. The statement "Occasional in-place density tests will be performed on the sand bedding to assure that a minimum of 85% compaction is being attained" has also been removed from the Final Design Submittal. Please explain why references to the compaction standard have been removed.*

Response: Please see response to Comment 6 on the Final Design submittal.

Please review these responses and let me know if they are acceptable to you. If so, we will revise the relevant documents and resubmit them. If you have any questions, please contact me at 314-674-6768.

Sincerely,

Solutia Inc.



Gary W. Vandiver
Project Coordinator

cc: Sandra Bron - IEPA
Ken Bardo - USEPA
Mike Coffey - USF&W
Tim Gouger - USACE
Peter Barrett - CH2M Hill

Cathleen Bumb - Solutia
Linda Tape - Husch & Eppenberger
Richard Williams - Solutia
Bruce Yare - Solutia
Steven Acre - USEPA